

Amendments to the Specification:

Please replace paragraph [0065] with the following rewritten paragraph:

--[0065] Figs. 6(a) and 6(b) show a movable mask with slits producing a diffraction grating, and Figs. 6(c) and 6(d) show resulting waveguide structures having a diffraction grating.--

Please replace paragraph [0140] with the following rewritten paragraph:

--[0140] In another embodiment of the invention, the mask is moved with non-constant velocity so that a non-uniform etch pattern is established on the waveguide 21 surface, as can be seen in Figs. 6(a) and 6(b). For example, if a mask 19 with slits or openings 20 is moved with an oscillatory velocity, then a corrugated surface 23 is formed. In this way, the present invention can be used to make diffraction gratings, such as Bragg filters, on the substrate surface. The mask 19 is moved during RIE or ion milling, for example. In this example, the mask 19 is moved with an approximately sinusoidal velocity. An advantage of the present invention is that by using, for example, a mask with an edge, and then a mask with slits, a single monolithic optical device can be made on a substrate comprising both a vertical tapered waveguide and a Bragg diffraction filter. This is done, for example, by first making a vertical tapered waveguide 21 on one end of a layer of an optical waveguide material on a substrate, masking the vertical tapered waveguide, and then making a diffraction grating 23' on the surface of the other end (which is not vertically tapered) of the waveguide as shown in Fig. 6(c). Thus, avoiding the dB coupling losses incurred by making such an optical device by coupling a discrete waveguide and a discrete filter. Hence, a waveguide capable of coupling to an optical fiber with a built in frequency filter is provided.--

Please replace paragraph [0145] with the following rewritten paragraph:

-- This is particularly useful in producing, for example, splitters for dense wave division multiplexers. Another embodiment is to make a vertically tapered waveguide, then provide a diffraction grating on the tapered surface, by using a mask with slits tilted to an angle that matched that of the vertical taper, so that the motion of the mask is out of plane with the substrate. A waveguide 21 resulting from such process is shown in Fig. 6(d).--